

REMARKS

Claims 1-10 are now pending.

Claims 1-10 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 5,297,951 (Asai) in view of Patent Application Publication US2002/0041911A1 (Mine). The Office Action apparently relies upon the punch 6 and ejection bar 7 of Asai for a teaching of ejectors that are received completely, or essentially completely, in ducts formed in a first mould half. The Office Action also apparently relies upon the punch 6 and ejector bar 7 for allegedly teaching an end of each ejector facing the pressure plate and having a profile that allows non-rotational anchoring for cooperation with a complementary profile arranged in a locking plate, thereby preventing the ejector from being turned.

Independent claim 1 is directed to an injection mould which has an injector arrangement comprising ejectors which, in parting of mould halves included in the mould, are adapted to eject a component formed therein. A pressure plate is also provided for actuating the ejectors. The ejectors in their non-actuated state are completely, or essentially completely, received in ducts formed in a first of the mould halves, and the pressure plate has press pins which, in parting of the mould halves, are adapted to apply a force to the ejectors to cause said ejection.

In contrast to the invention claimed in independent claim 1, Asai discloses an ejection bar 7 that has a large-diameter portion 7A at the rear part thereof, with the large-diameter portion 7A being slidably provided in a guide chamber 28. A punch 6 passes

through a central hole of the ejection bar 7. As described in column 3, lines 27-52 of Asai, a disk 30 is released by air being blown through air holes A, B and C, and an ejector pin 9A positioned on the reverse side of the large-diameter portion 7A is advanced and retreated with the aid of a drive means in order to thrust the large-diameter portion 7A of the ejection bar 7 against a spring 8A to eject the disk 30. The punch 6 is not used in the ejection of the disk 30, but rather is used to punch a hole in the center of the disk 30 after melted resin is poured into the cavity 3, and before the disk 30 is ejected from the mould.

Accordingly, Applicant respectfully submits that the single ejector bar 7 with large-diameter portion 7A contained within a guide chamber 28 of the mould constituting member 26 in Asai does not provide any teaching or suggestion of the claimed ejectors that in their non-actuated state are completely, or essentially completely, received in ducts formed in a first of the mould halves. Furthermore, as recognized in the Office Action, Asai fails to teach a pressure plate having press pins, which in parting of the mould halves, are adapted to apply a force to the ejectors to cause ejection.

Mine fails to overcome the above-noted deficiencies of Asai since Mine also does not teach or suggest ejectors that in their non-actuated state are completely, or essentially completely, received in ducts formed in a first of mould halves. As clearly shown in Figs. 1A and 1B of Mine, and described at paragraphs [0022] and [0023], the ejection pins 7a and 7b must project by a significant distance from their ducts in upper mould 2 in order to be connected to and actuated by the plate 14, and ejection pins 7e and 7f must also project by a significant distance from their ducts in lower mould 1 in order to be connected to and

actuated by the plate 10 of pin holding mechanism 9a. Accordingly, Applicant submits that neither Mine nor Asai teach or suggest an injection mould having ejectors that in their non-actuated state are completely, or essentially completely, received in ducts formed in a first of the mould halves. Independent claim 1 is therefore novel and non-obvious over Asai in view of Mine.

Independent claim 8 is similarly directed to an injector arrangement of an injection mould, comprising a novel combination of features that includes ejectors that in their non-actuated state are completely, or essentially completely, received in ducts formed in the mould, and a pressure plate that has press pins which, in parting of the mould halves, are adapted to apply a force to the ejectors to cause ejection. As discussed above with regard to independent claim 1, Applicant respectfully submits that neither Mine nor Asai, whether considered alone or in combination, teach or suggest ejectors that in their non-actuated state are completely, or essentially completely, received in ducts formed in the mould. Accordingly, Applicant submits that independent claims 1 and 8, and hence dependent claims 2-7, are novel and non-obvious over Asai in view of Mine.

Independent claim 9 is directed to an injection mould that is made up of modules, comprising a mould module having a cavity, an ejector module accommodating ejectors and resetting means, a module comprising the locking plate, and a module comprising the pressure plate. The Office Action refers to Asai for allegedly disclosing a cavity located in a mould module comprising plates 1, 2 and 11. Applicant respectfully submits that stationary mould half 1, movable mould half 2 and peripheral ring 11 of Asai do not

constitute a mould module having a cavity. The separate stationary mould half 1, movable mould half 2 and peripheral ring 11 clearly do not constitute a mould module having a cavity. As described in the specification at page 9, lines 10-14, a mould module, such as mould half 2a in the embodiment shown in Fig. 2, contains material that is necessary to form a cavity 4. In contrast to this feature claimed in independent claim 9, a cavity 3 in Asai is formed between the stationary mould half 1 and the movable mould half 2, and bounded on its outer periphery by the peripheral ring 11. Similarly, independent claim 9 requires an ejector module accommodating ejectors and resetting means. Although limitations are not read from the specification into a claim, a claim is interpreted in light of the specification, and accordingly one of ordinary skill would understand from the specification, such as at page 9, lines 15-20, that the claimed ejector module accommodating ejectors and resetting means is a single block of material rather than the multiple plates disclosed in Asai and relied upon in the Office Action for allegedly disclosing an ejector module.

For at least the above reasons, Applicant submits that the combination of Asai and Mine neither teaches nor suggests the novel combination of features claimed in independent claim 9. Accordingly, independent claim 9, and hence dependent claim 10, are novel and non-obvious over Asai in view of Mine. Withdrawal of all rejections under 35 U.S.C. § 103(a) is therefore respectfully requested.

Prompt issuance of a Notice of Allowance is earnestly solicited. In the event any questions arise regarding this communication or the application in general, please contact Applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

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